This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor**, **Industrial** permit. The storm water discharge results from yard waste composting operations. This permit action consists of updating the WQS, and updating boilerplate language. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1.	Facility Name and Mailing Address:	Loudoun Composting 44150 Wade Drive Chantilly, VA 20152	SIC Code	::	4953 – Yard Waste Composting				
	Facility Location:	44150 Wade Drive Chantilly, VA 20152	County:		Loudoun				
	Facility Contact Name:	Mr. Tim Hutchinson	Telephon	e Number:	(703) 327-8428				
2.	Permit No.:	VA0091430	Expiration previous		March 22, 2009				
	Other VPDES Permits associ	ated with this facility:	N/A						
	Other Permits associated with	n this facility:	Solid Wa	Solid Waste – PBR 141					
	E2/E3/E4 Status:	N/A							
3.	Owner Name:	Loudoun Composting, LLC							
	Owner Contact/Title:	Mr. Tim Hutchinson / Mana	iger Telephon	ne Number:	(703) 327-8428				
4.	Application Complete Date:	November 14, 2008							
	Permit Drafted By:	Susan Mackert	Date	Drafted:	January 20, 2009				
	Draft Permit Reviewed By:	Alison Thompson	Date	Reviewed:	January 23, 2009				
	Public Comment Period :	Start Date: March 5, 2009	End I	Date:	April 3, 2009				
5.	Receiving Waters Informatio	n:							
	Receiving Stream Name:	UT, Sand Branch							
	Drainage Area at Outfall:	<1.0 sq.mi.	River Mile:		XKO 000.14				
	Stream Basin:	Potomac	Subbasin:		Lower Potomac				
	Section:	7a	Stream Class:		III				
	Special Standards:	g	Waterbody ID:		VAN-A22R				
	7Q10 Low Flow:	0 MGD	7Q10 High Flow	W:	0 MGD				
	1Q10 Low Flow:	0 MGD	1Q10 High Flow	W:	0 MGD				
	Harmonic Mean Flow:	0 MGD	30Q5 Flow:		0 MGD				
	303(d) Listed:	No	30Q10 Flow:		0 MGD				
	TMDL Approved:	No	Date TMDL Ap	proved:	N/A				
	It is staff's best professional to 0.	judgement that based on a dra	ainage area of 5	sq.mi or less,	critical flows will be equal				
6.	Statutory or Regulatory Bas	is for Special Conditions and	Effluent Limitat	ions:					
	✓ State Water Control	Law		EPA Guidelines					
	✓ Clean Water Act		$\overline{\checkmark}$	Water Quality Standards					
	✓ VPDES Permit Regu	lation		Other					

✓ EPA NPDES Regulation

7.	Licensed Operator Requirements: N/A												
8.	Relia	bility Class: N/A											
9.	Perm	it Characterization:	:										
	✓	Private	✓	Effluent Limited		Possible Interstate Effect							
		Federal	✓	Water Quality Limited		Compliance Schedule Required							
		State	✓	Toxics Monitoring Program Required		Interim Limits in Permit							
		POTW		Pretreatment Program Required		Interim Limits in Other Document							
		TMDL			<u> </u>								

# 10. Wastewater Sources and Treatment Description:

Loudoun Composting accepts leaves, grass, yard trimmings, topsoil, stumps, vegetative land clearing debris, and logs for processing and sorting. Leaves and grass are processed through trommel screen, and the finer materials are transported to the composting area. After composting is complete, the materials are screened for final product (compost) and sold to customers. Brush and stump are processed by a tub grinder and sold to customers as mulch. Delimbed logs are stockpiled, sorted, graded, resized, and transported to customers.

Yard waste material is deposited into two composting areas. The eastern composting area has a drainage area of 4.65 acres with the composting area comprising approximately 2.7 acres. Runoff from the eastern composting area flows to storm water holding facility two (Pond 2). The western composting area has a drainage area of 13.25 acres with the composting area comprising approximately 5.6 acres. Runoff from the western composting area and vegetative waste handling area flows to storm water holding facility one (Pond 1). Under normal operating conditions, storm water is recycled to the compost piles for moisture adjustment or for use in dust suppression. During periods of high precipitation when storm water runoff exceeds the needs of the facility, Pond 1 is pumped to Pond 2 which discharges to a storm sewer manhole on the property. This manhole empties into a storm water conveyance pipe that passes under the property with eventual discharge via Outfall 001.

See Attachment 1 for the NPDES Permit Rating Worksheet.

A facility schematic/diagram was provided by the facility as part of the application package and can be found within the permit reissuance file.

TABLE 1 – Outfall Description												
Outfall Number	Discharge Sources	Treatment	Average Flow	Outfall Latitude and Longitude								
001	Industrial Storm Water	Settling	Variable	38° 55′ 12″ N 77° 28′ 28″ W								
See Attachment 2 for (Herndon, DEQ #205B) topographic map.												

#### 11. Sludge Treatment and Disposal Methods:

Loudoun Composting is a yard waste composting facility that does not treat domestic sewage and does not produce sewage sludge.

# 12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2 The facilities and monitoring stations listed below either discharge to or are located within the following waterbody: VAN-A22R								
1ACUB008.60	DEQ ambient water quality monitoring station located on Cub Run (Route 661 -Old Lee Highway)							
1ACUB-CR3-SOS	Citizen monitoring station located on Cub Run							
1ACUB002.61	DEQ ambient and fish tissue/sediment monitoring station located on Cub Run ( Route 658)							
1ACUB003.74	DEQ ambient monitoring station located on Cub Run (Route 29/211)							
1ACUB-CR1-SOS	Citizen monitoring station located on Cub Run							
VAG406171	Deli O Texaco							
VAG406265	Chantilly Truck Stop							
VAG830019	Fair Oaks Church							
VAG840106	Chantilly Crushed Stone, Inc.							
VAG110089	Virginia Concrete Company, Inc Chantilly							
VAG110094	DuBrook Concrete - Loudoun							
VAG110096	Atlantic Contracting and Material Company, Inc.							
VAR050863	Virginia Paving Company - Chantilly							
VAR051036	UPS – Dulles Center							
VAR051773	Fairfax County – West Ox Road Maintenance Facility							
VAR051813	AAA Disposal Service, Inc.							
VA0024988	UOSA - Centreville							
VA0089541	MWAA – Washington Dulles International Airport							
VA0090441	Adaptive Concrete Solutions							

# 13. Material Storage:

Loudoun Composting accepts leaves, grass, yard trimmings, topsoil, stumps, vegetative land clearing debris and logs for processing on site. The facility receives approximately 40 tons of leaves and grass annually, which produces 27 tons of compost (annually). Additionally, the facility receives approximately 200 tons of stumps and brush, which produces 100 tons of mulch (annually).

**14. Site Inspection:** Performed by the facility's compliance inspector, Sharon (Mack) Allen, on August 31, 2007. The site inspection report can be found within the 2007 DMR file.

#### 15. Receiving Stream Water Quality and Water Quality Standards:

#### a) Ambient Water Quality Data

There is no monitoring data available for unnamed tributaries to Sand Branch; however there is downstream monitoring data for Cub Run (DEQ ambient water quality monitoring station 1ACUB008.60 – Route 661 and citizen monitoring station 1ACUB-CR3-SOS). According to the 2008 305(b)/303(d) Virginia Water Quality Integrated Assessment, citizen monitoring finds a high probability of adverse conditions for biota resulting in a designation of fully supporting with an observed effect for the aquatic life use. The wildlife use is considered fully supporting. The fish consumption and recreation uses were not assessed.

There are further downstream impairments of Cub Run and Bull Run as these segments receive flow from Sand Branch

# Cub Run

- A segment of Cub Run (VAN-A22R\_CUB01A00) is listed as impaired for not meeting the recreational use water quality standard due to exceedances of the *E. coli* bacteria criteria. Sufficient excursions from the instantaneous *E. coli* bacteria criterion (4 of 19 samples 21.0%) were recorded at DEQ's ambient water quality monitoring station (1ACUB002.61) at the Route 658 crossing to assess this stream segment as not supporting of the recreation use goal for the 2008 305(b)/303(d) Virginia Water Quality Integrated Assessment.
- Cub Run at segments VAN-A22R\_CUB02A02 and VAN-A22R\_CUB01A00 is listed with an observed effect for the aquatic life use for benthic macroinvertebrates due to citizen monitoring. Citizen monitoring finds a high probability of adverse conditions for biota.
- Cub Run at segment VAN-A22R\_CUB01A00 is listed with observed effects for mercury and PCBs in fish tissue. Exceedances of the water quality criterion based tissue value (TV) of 54 parts per billion (ppb) for PCBs and 300 ppb for mercury (Hg) in fish tissue were recorded in one specie (flathead catfish) of fish samples collected in 2004 at monitoring station 1ACUB002.61. The fish consumption use is classified as fully supporting with observed effects.

#### Bull Run

- Bull Run, downstream from the confluence with Cub Run (Segment VAN-A23R\_BUL02A02), is listed as impaired for not meeting the aquatic life use goal due to poor health in the benthic macroinvertebrate community. Two biological monitoring events in 2005 (1ABUL009.61), two biological monitoring events in 2004 (1ABUL010.28), and two biological events in 2005 (1ABUL011.12) each resulted in a VSCI score which indicates an impaired macroinvertebrate community.
- Bull Run at segments VAN-A23R\_BUL02A02, VAN-A23R\_BUL01C04, VAN-A23R\_BUL01B02 and VAN-A23R\_BUL01A06 is also listed as impaired for not supporting the fish consumption use goal due to elevated levels of PCBs in fish tissue. The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month. The affected area includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.
- At monitoring station 1ABUL010.28, fish tissue data reveal excursions of the water quality criterion based tissue value (TV) of 54 parts per billion (ppb) for PCBs in two species of fish (channel catfish and flathead catfish) in 2001 and one specie (channel catfish) in 2004 (3 total excursions).

Bull Run at Segment VAN-A23R\_BUL01C04 is listed with an observed effect for arsenic if fish tissue. Fish tissue data revealed an exceedance of the fish tissues screening value (TSV) of 72 ppb for arsenic (As) in one tissue sample of largemouth bass, all in 2004 at monitoring station 1ABUL006.47. The arsenic exceedance is noted by an observed effect.

The following Total Maximum Daily Load (TMDL) has been approved:

■ Benthic – Bull Run (9/26/06)

The following Total Maximum Daily Load (TMDL) schedule has been established:

- Fish Consumption Due 2016 (Bull Run)
- *E. coli* Due 2018 (Cub Run)

# b) <u>Receiving Stream Water Quality Criteria</u>

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, UT to Sand Branch, is located within Section 7a of the Potomac River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 3 details other water quality criteria applicable to the receiving stream.

#### Ammonia:

The 7Q10 and 1Q10 of the receiving stream are 0.0 MGD. In cases such as this, effluent pH and temperature data may be used to establish the ammonia water quality standard. Because there is no effluent temperature data for this facility, a default temperature value of 25°C was used. The 90th percentile value of the effluent pH data from January, 2006 to November, 2008 is 8.4 S.U.

The ammonia water quality standards calculations are shown in Attachment 3.

#### Metals Criteria:

The 7Q10 of the receiving stream is zero and no ambient data is available, the effluent data for hardness can be used to determine the metals criteria. The hardness-dependent metals criteria in Attachment 3 are based on a one time effluent value of 332 mg/L.

#### c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380 designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, UT to Sand Branch, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of "g".

Special Standard "g" refers to the Occoquan Watershed policy (9 VAC 25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new STPs and only allows minor industrial discharges. Special standard "g" is not applied to the discharge from Loudoun Composting as the discharge is industrial storm water in nature and does not contain domestic wastewater sources.

#### d) Threatened or Endangered Species

Based on a Memorandum of Understanding (MOU) addressing VPDES permits regulating point source discharges into State waters, a review for species and habitat protected by the Virginia Endangered Species Act was requested by the Department of Conservation and Recreation (DCR) and the Department of Game and Inland Fisheries (DGIF). The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge from Outfall 001. The following threatened or endangered species were identified within a 2 mile radius of the discharges: Brook Floater, Wood Turtle, Upland Sandpiper, Loggerhead Shrike, Henslow's Sparrow, Appalachian Grizzled Skipper, Bald Eagle, Green Floater and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharges.

The project review report is available within the permit reissuance file.

### 16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 since the 7Q10 flows are zero and storm water runoff comprises most of the discharge. The permit limits and monitoring endpoints proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

### 17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

### a) <u>Effluent Screening:</u>

Effluent data obtained from the permit application and DMR submissions has been reviewed and determined to be suitable for evaluation.

# b) <u>Monitoring End Points:</u>

Storm water discharges are considered intermittent and infrequent and as such, the only concern would be acute water quality impacts. The duration of this discharge is not expected to occur for four or more consecutive days. Therefore, only the acute wasteload allocations ( $WLA_a$ ) need to be addressed. Water Quality Criteria for human health (and chronic toxicity to a lesser degree) are based upon long term, continuous exposure to pollutants from effluents, and storm water discharges are short term and intermittent. Therefore, it is believed that the human health and chronic criteria are not applicable to storm water discharges. If it is raining a sufficient amount to generate a discharge of storm water, it is assumed that the receiving stream flow will be greater than the critical flow due to storm water runoff within the stream's drainage area. In recognition of the dilution caused by the rainfall, the  $WLA_a$  was calculated by multiplying the acute Water Quality Criteria by two (2) for effluent dominated streams. The  $WLA_a$  will be considered a monitoring endpoint.

# c) Effluent Limitations Toxic Pollutants, Outfall 001

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

#### 1) Ammonia as N:

Staff reevaluated pH and temperature and has concluded it is different than what was used previously to derive ammonia criteria. As result, staff used the new data to determine new ammonia water quality criteria, and new ammonia monitoring end points.

Data analysis indicates the need for an average monthly Ammonia limit of 2.6 mg/L. VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. Therefore, in the interim, screening (i.e., decision) criteria have been established at 2 times the acute criteria. Based on pH of 8.4 S.U. and a calculated Acute Criteria of 3.9 mg/L for Ammonia (Attachment 3), the 2x Acute Criteria Monitoring End Point for this reissuance is 7.8 mg/L.

The monitoring frequency of once every month in which a discharge occurs (1/M) shall be carried forward with this reissuance.

Should storm water data exceed the established monitoring end point, the permittee shall reexamine the effectiveness of the SWPPP and any best management practices (BMPs) in use.

# d) <u>Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants</u>

# 1) Biochemical Oxygen Demand (BOD<sub>5</sub>)

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. As such, BOD<sub>5</sub> shall continue to be monitored but without specific limitation.

The monitoring frequency of once every month in which a discharge occurs (1/M) shall be carried forward with this reissuance

### 2) Total Suspended Solids (TSS)

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. As such, TSS shall continue to be monitored but without specific limitation.

The monitoring frequency of once every month in which a discharge occurs (1/M) shall be carried forward with this reissuance.

# 3) Chemical Oxygen Demand (COD)

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. As such, COD shall continue to be monitored but without specific limitation.

The monitoring frequency of once every month in which a discharge occurs (1/M) shall be carried forward with this reissuance.

# 4) pH

No changes to pH limitations are proposed. pH limitations are set at the water quality criteria.

The monitoring frequency of once every month in which a discharge occurs (1/M) shall be carried forward with this reissuance.

#### e) Effluent Limitations and Monitoring, Outfall 001 – Nutrients

# 1) Total Nitrogen (TN)

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. As such, Total Nitrogen shall continue to be monitored but without specific limitation.

The monitoring frequency of once every three months in which a discharge occurs (1/3M) shall be carried forward with this reissuance.

# 2) Total Phosphorus (TP)

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. As such, Total Phosphorus shall continue to be monitored but without specific limitation.

The monitoring frequency of once every three months in which a discharge occurs (1/3M) shall be carried forward with this reissuance

### f) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for pH.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

**MONITORING** 

REQUIREMENTS

# 18. Antibacksliding:

**PARAMETER** 

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

# 19. Effluent Limitations/Monitoring Requirements: Outfall 001

BASIS FOR

LIMITS

Average flow: Variable (storm water dependent)

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

DISCHARGE LIMITATIONS

	LIMITS	Monthly Average	Daily Maximum	<u>Minimum</u>	<u>Maximum</u>	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH (S.U.)	3	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
BOD <sub>5</sub> (mg/L)	2	NL	NL	NA	NA	1/M	Grab
Chemical Oxygen Demand (mg/L)	2	NL	NL	NA	NA	1/M	Grab
Total Suspended Solids (mg/L)	2	NL	NL	NA	NA	1/M	Grab
Ammonia, as N (mg/L)	2	NL	NL	NA	NA	1/M	Grab
Total Nitrogen <sup>a.</sup> (mg/L)	2,3	NL	NL	NA	NA	$1/3M^{(b)}$	Grab
Total Phosphorus (mg/L)	2,3	NL	NL	NA	NA	$1/3M^{(b)}$	Grab
Acute Toxicity – C. dubia (TU <sub>a</sub> )	2	NA	NL	NA	NA	1/D - M	Grab
Acute Toxicity – P. promelas (TU <sub>a</sub> )	2	NA	NL	NA	NA	1/D - M	Grab
The basis for the limitations code	es are: 1	MGD = Million gallo	ons per day.	I/M = Once per month in which a discharge occurs.			
1. Federal Effluent Requirements	3	N/A = Not applicab	ole.		1/3M =	Once every t	nree months.
2. Best Professional Judgement		NL = No limit; mo	onitor and report.		1/D-M =	<ul> <li>Once each di month, not to samples in a month.</li> </ul>	~ .
3. Water Quality Standards		S.U. = Standard uni	its.				

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

a. Total Nitrogen = Sum of TKN plus Nitrate+Nitrite

b. The quarterly monitoring periods shall be January 1 - March 31, April 1 - June 30, July 1 - September 30 and October 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

# 20. Other Permit Requirements:

- a) Part I.B. of the permit contains quantification levels and compliance reporting instructions.

  9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.
- b) Permit Section Part I.C., details the requirements for Toxics Management Program.

  The VPDES Permit Regulation at 9 VAC 25-31-210 requires monitoring and 9 VAC 25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A TMP is imposed for municipal facilities with a design rate >1.0 MGD, with an approved pretreatment program or required to develop a pretreatment program, or those determined by the Board based on effluent variability, compliance history, IWC, and receiving stream characteristics.

The existing permit requires the facility to conduct acute toxicity testing once per year. A review of toxicity data reported over the term of the permit indicates that 75% of that data failed to pass the acceptability criteria ( $TU_a = 1.0$ ). VA-DEQ Guidance Memo 00-2012 recommends that permits with toxic management programs where more than 25% of the data do not meet the acceptability criteria are to be considered to have reasonable potential and must complete a toxicity reduction evaluation (TRE) and have a whole effluent toxicity (WET) limit established

VA-DEQ Guidance Memo 00-2012 also recommends that DEQ not be involved in the TRE process and that WET limits not be established for storm water discharges. As such, it is staff's best professional judgement that the frequency of acute toxicity testing be increased to once per discharge per month not to exceed two samples per calendar month.

If any test results fail to pass the acceptability criteria as set forth in Part I.C.1. of the permit, the facility shall submit written notification and actions taken to mediate the toxicity of the effluent.

The toxic management program data review memo can be found within the permit reissuance file.

c) Permit Section Part I.D. details the requirements of a Storm Water Management Plan.
9 VAC 25-31-10 defines discharges of storm water from municipal treatment plants with design flow of 1.0 MGD or more, or plants with approved pretreatment programs, as discharges of storm water associated with industrial activity. 9 VAC 25-31-120 requires a permit for these discharges. The Pollution Prevention Plan requirements are derived from the VPDES general permit for discharges of storm water associated with industrial activity, 9 VAC 25-151-10 et seq.

# 22. Other Special Conditions:

- a) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. The permittee shall submit a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO) by June 23, 2009. Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Noncompliance with the O&M Manual shall be deemed a violation of the permit.
- b) <u>Water Quality Criteria Reopener.</u> The VPDES Permit Regulation at 9 VAC 25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should data collected and submitted for Attachment A of the permit, indicate the need for limits to

ensure protection of water quality criteria, the permit may be modified or alternately revoked and reissued to impose such water quality-based limitations.

- water Quality Criteria Monitoring. State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent from Outfall 001 for the substances noted in Attachment A of this VPDES permit. Monitoring shall be initiated after the start of the third year from the permit's effective date. The data shall be submitted with the facility's next permit application package.
- d) <u>Notification Levels.</u> The permittee shall notify the Department as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - (1) One hundred micrograms per liter;
  - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
    - (3) Five times the maximum concentration value reported for that pollutant in the permit application; or
    - (4) The level established by the Board.
  - b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - (1) Five hundred micrograms per liter;
    - (2) One milligram per liter for antimony;
  - (3) Ten times the maximum concentration value reported for that pollutant in the permit application; or
    - (4) The level established by the Board.
- e) <u>Materials Handling/Storage</u>. 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

<u>Permit Section Part II.</u> Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

### 23. Changes to the Permit from the Previously Issued Permit:

- a) Special Conditions:
  - 1. A TMDL reopener special condition was added to the permit.
  - 2. A Notification Levels special condition was added to the permit.
- b) Monitoring and Effluent Limitations:
  - 1. The frequency of acute toxicity monitoring was increased from once per year to once per discharge per month, not to exceed two samples in a given calendar month.

#### 24. Variances/Alternate Limits or Conditions: N/A

#### 25. Public Notice Information:

First Public Notice Date: March 4, 2009 Second Public Notice Date: March 11, 2009

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3853, sdmackert@deq.virginia.gov. See Attachment 4 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

# 26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

The receiving stream, UT to Sand Branch, is not listed on the current 303(d) list. However, the 2008 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report (IR) lists numerous downstream impairments for both Cub Run and Bull Run which receive flow from UT, Sand Branch. A benthic Total Maximum Daily Load (TMDL) was approved for Bull Run by the U.S. EPA on September 26, 2006. Upstream point sources were considered, but the facility was not given a waste load allocation in the TMDL as it was not expected to discharge the pollutant of concern.

<u>TMDL Reopener:</u> This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

#### 27. Additional Comments:

Previous Board Action(s): None

Staff Comments: None

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in Attachment 5.

							Х	Regular Addition			
								Discretionary Addi			
VPI	DES NO. :	VA009	1430					Score change, but	no status Cha	nge	
								Deletion			
	lity Name:			sting							
	/ / County:	Loudou									
	ing Water:	UT, Sa	and Branch	າ							
Reach	n Number:										
nore of the state	ne following ch utput 500 MW or r power Plant	naracteristi greater (no	ics? of using a cooling 25% of the re	=4911) with one of a second point of the continue)	populati YES X NO:	permit for a mution greater that S; score is 700 (continue)	an 100		ewer serving a		
PCS SIC (				al Sic Code: 4953	3	Other Sic Cod	des: _				
Industrial	Subcategory (	Code: C	000	(Code 00	0 if no subca	tegory)					
Determine	e the Toxicity r	ootential fro	om Appendis	A. Be sure to use	e the TOTAI	toxicity potent	ial col	umn and check one	e)		
Toxicity			ints	Toxicity Group		Points		Toxicity Group	Code	Points	
▼ No pro			0	3.	3	15		7.	7	35	
waste	streams	0 (	U	3.	3	13			1	33	
1.		1 !	5	4.	4	20		8.	8	40	
2.		2 1	10		E	0E			0	ΛE	
2.		2 1	10	5.	5	25		9.	9	45	
				6.	6	30		10.	10	50	
								Code Number Cl	hecked:	0	
								Total Points F	actor 1:	0	
FACTO	R 2: Flow/\$	Stream I	Flow Volu	ime (Complete ei	ther Section	A or Section B	; chec	k only one)			
Section A	- Wastewate	r Flow Only	v considered			Section B - W	/astew	vater and Stream F	low Considered	4	
	astewater Typ				Waste	water Type		ercent of Instream Wa			
`	ee Instruction	,	Cod		(see li	nstructions)		Receiving St	ream Low Flow		
Type I:	Flow < 5 MG		11		_				Code	Points	
	Flow 5 to 10		12		Ту	/pe I/III:		< 10 %	41	0	
	Flow > 10 to		13				1	0 % to < 50 %	42 42	10	
	Flow > 50 M	GD	14	30				> 50%	<b>X</b> 43	20	
Type II:	Flow < 1 MG		21	10	Т	ype II:		< 10 %	51	0	
	Flow 1 to 5 M		22				1	0 % to < 50 %	52	20	
	Flow $> 5$ to 1		23					> 50 %	53	30	
	Flow > 10 M	GD	24	50							
Type III:	Flow < 1 MG	BD	31	0							
	Flow 1 to 5 M	MGD	32	10							
	Flow > 5 to 1	10 MGD	33	20							
	Flow > 10 M	GD	34	30							
							C~4	e Checked from Se	action A or D	43	
							500		nts Factor 2:	20	
								. Ottai i Oii	2.	_0	

#### **FACTOR 3: Conventional Pollutants** (only when limited by the permit) A. Oxygen Demanding Pollutants: (check one) BOD COD Other: **Points** Code Permit Limits: (check one) < 100 lbs/day 1 0 100 to 1000 lbs/day 2 5 > 1000 to 3000 lbs/day 15 3 > 3000 lbs/day 20 Code Number Checked: **Points Scored:** 0 B. Total Suspended Solids (TSS) Permit Limits: (check one) Code **Points** < 100 lbs/day 0 1 100 to 1000 lbs/day 2 5 15 > 1000 to 5000 lbs/day 3 > 5000 lbs/day 20 Code Number Checked: **Points Scored:** C. Nitrogen Pollutants: (check one) Ammonia Other: Permit Limits: (check one) Nitrogen Equivalent Code **Points** < 300 lbs/day 1 0 300 to 1000 lbs/day 2 5 > 1000 to 3000 lbs/day 3 15 > 3000 lbs/day 20 Code Number Checked: NA

#### **FACTOR 4: Public Health Impact**

NO; (If no, go to Factor 5)

YES; (If yes, check toxicity potential number below)

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

**Points Scored:** 

**Total Points Factor 3:** 

0

0

						Total Points Fac	tor 4:	0
						Code Number Che	ecked:	0
			6.	6	10	10.	10	30
2.	2	0	5.	5	5	9.	9	25
1.	1	0	4.	4	0	8.	8	20
X No process waste streams	0	0	3.	3	0	7.	7	15
Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
			om Appendix A. Use the – check one below)	same SIC	doe and subc	ategory reference as in Fac	tor 1. (Be s	ure to use

# **FACTOR 5: Water Quality Factors**

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been to the discharge

	Code	Points
YES	1	10
X NO	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
X YES	1	0
NO	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

X YES	Code 1			Points 10						
NO NO	2			0						
Code Number Checked: Points Factor 5:	A A	2	_ +	B B	1	_ +	C C	1 10	- =	10

# **FACTOR 6: Proximity to Near Coastal Waters**

A. Base Score: Enter flow code here (from factor 2) 43

Check a	ppropriate fa	cility HPRI code	(from PCS):	Enter the multiplication factor that corresponds to the flow code:							
	HPRI#	Code	HPRI Score	I	Flow Code		Mι	ultiplication Factor			
	1	1	20	1	1, 31, or 41		0.00				
<u> </u>				1:	2, 32, or 42	0.05					
X	2	2	0	1:	3, 33, or 43	0.10					
					14 or 34	0.15					
	3	3	30		21 or 51		0.10				
					22 or 52			0.30			
	4	4	0		23 or 53			0.60			
					24			1.00			
	5	5	20								
HP	RI code che	cked: 2									
Base Score (HPRI Score):			Χ (	Multiplication Factor)	0.6	=	0				

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

C. Additional Points – Great Lakes Area of Concern For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

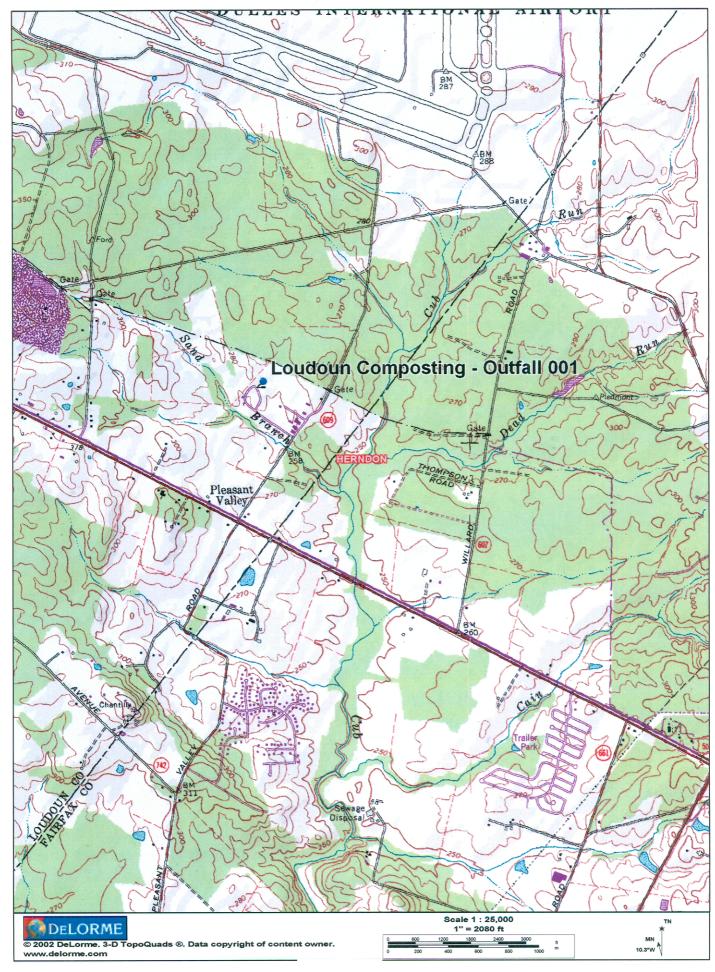
X	Code 1 2	Points 10 0				X	Code 1 2		Points 10 0		
	Co	de Number Checked:	Α_	2	 В	2		c _	2	 0	

# **SCORE SUMMARY**

<u>Factor</u>	<u>Description</u>	<u>To</u>	otal Points
1	Toxic Pollutant Pote	ential	0
2	Flows / Streamflow V	olume	20
3	Conventional Pollu	tants	0
4	Public Health Impa	acts	0
5	Water Quality Fac	etors	10
6	Proximity to Near Coast	al Waters	0
	TOTAL (Factors 1 thr	ough 6)	30
S1. Is the total score equal to or gr	ater than 80 YES; (Facil	lity is a Major)	NO
S2. If the answer to the above que	stions is no, would you like this faci	lity to be discretionary major	?
X NO			
		h alavu	
Reason:	e above score and provide reason l	Delow:	
NEW SCORE : 30			
OLD SCORE: 35			
		Permit Reviewer's Nan	ne : Susa

Phone Number: (703) 583-3853

Date: January 13, 2009



Attachment 2 Page 1 of 1

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name:

Loudoun Composting

Permit No.: VA0091430

Receiving Stream:

Sand Branch, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows	Mixing Information	Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) = 0 MGD	Annual - 1Q10 Mix = 0 %	Mean Hardness (as CaCO3) =	322 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) = 0 MGD	- 7Q10 Mix = 0 %	90% Temp (Annual) =	deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) = 0 MGD	- 30Q10 Mix = 0 %	90% Temp (Wet season) =	25 deg C
90% Maximum pH =	SU	1Q10 (Wet season) = 0 MGD	Wet Season - 1Q10 Mix = 0 %	90% Maximum pH =	8.4 SU
10% Maximum pH =	SU	30Q10 (Wet season) 0 MGD	- 30Q10 Mix =	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 = 0 MGD		Discharge Flow =	0.017 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean = 0 MGD			
Trout Present Y/N? =	n	Annual Average = 0 MGD			
Early Life Stages Present Y/N? =	y				

Parameter	Background		Water Qua	ality Criteria			Wasteload	Allocations	3		Antidegrada	ation Baseline		Д	ntidegradati	ion Allocations			Most Limit	ing Allocation	15
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	нн
Acenapthene	0			na	2.7E+03			na	2.7E+03							~~				na	2.7E+03
Acrolein	0		***	na	7.8E+02			na	7.8E+02											na	7.8E+02
Acrylonitrile <sup>C</sup>	0		***	na	6.6E+00			na	6.6E+00							***				na	6.6E+00
Aldrin <sup>C</sup>	0	3.0E+00		na	1.4E-03	3.0E+00		na	1.4E-03									3.0E+00		na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	3.88E+00	1.29E+00	na		3.9E+00	1.3E+00	na				****						3.9E+00	1.3E+00	na	
Ammonia-N (mg/l) (High Flow)	0	3.88E+00	6.56E-01	na		3.9E+00	6.6E-01	na										3.9E+00	6.6E-01	na	
Anthracene	0			na	1.1E+05			na	1.1E+05											na	1.1E+05
Antimony	0			na	4.3E+03			na	4.3E+03											na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na		3.4E+02	1.5E+02	na									~~	3.4E+02	1.5E+02	na	
Barium	0			na	***			na										-		na	
Benzene <sup>c</sup>	0			na	7.1E+02			na	7.1E+02											na	7.1E+02
Benzidine <sup>C</sup>	0			na	5.4E-03			na	5.4E-03											na	5.4E-03
Benzo (a) anthracene <sup>c</sup>	0			na	4.9E-01			na	4.9E-01									-		na	4.9E-01
Benzo (b) fluoranthene <sup>c</sup>	0			na	4.9E-01			na	4.9E-01											na	4.9E-01
Benzo (k) fluoranthene c	0			na	4.9E-01			na	4.9E-01					***						na	4.9E-01
Benzo (a) pyrene <sup>c</sup>	0			na	4.9E-01			na	4.9E-01											na	4.9E-01
Bis2-Chloroethyl Ether	0			na	1.4E+01			na	1.4E+01											na	1.4E+01
Bis2-Chloroisopropyl Ether	0			na	1.7E+05			na	1.7E+05							***				na	1.7E+05
Bromoform <sup>c</sup>	0			na	3.6E+03			na	3.6E+03											na	3.6E+03
Butylbenzylphthalate	0			na	5.2E+03			na	5.2E+03											na	5.2E+03
Cadmium	0	1.5E+01	2.8E+00	na		1.5E+01	2.8E+00	na										1.5E+01	2.8E+00	na	
Carbon Tetrachloride c	0			na	4.4E+01			na	4.4E+01											na	4.4E+01
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02						***	***		2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na		8.6E+05	2.3E+05	na										8.6E+05	2.3E+05	na	
TRC	0	1.9E+01	1.1E+01	na		1.9E+01	1.1E+01	na										1.9E+01	1.1E+01	na	
Chlorobenzene	0			na	2.1E+04			na	2.1E+04											na	2.1E+04

Parameter	Background		Water Qua	ality Criteria			Wasteload	Allocations			Antidegrada	tion Baseline		А	ntidegradati	on Allocations			Most Limiti	ing Allocation	15
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	НН	Acute	T	HH (PWS)	НН	Acute	T	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН
Chlorodibromomethane <sup>C</sup>	0	710010		na	3.4E+02			na	3.4E+02											na	3.4E+02
Chloroform <sup>C</sup>	0		***	na	2.9E+04	M 44		na	2.9E+04		***									na	2.9E+04
	0			na	4.3E+03			na	4.3E+03											na	4.3E+03
2-Chloronaphthalene	0		-	na	4.0E+02			na	4.0E+02											na	4.0E+02
2-Chlorophenol		0.05.00	4.45.00			8.3E-02	4.1E-02		4.02.102									8.3E-02	4.1E-02	na	
Chlorpyrifos	0	8.3E-02	4.1E-02	na				na										1.5E+03	1.9E+02	na	
Chromium III	0	1.5E+03	1.9E+02	na		1.5E+03	1.9E+02	na						-				1.6E+01	1.1E+01	na	
Chromium VI	0	1.6E+01	1.1E+01	na		1.6E+01	1.1E+01	na													
Chromium, Total	0			na				na										-		na	
Chrysene <sup>c</sup>	0			na	4.9E-01			na	4.9E-01											na	4.9E-01
Copper	0	4.0E+01	2.4E+01	na		4.0E+01	2.4E+01	na										4.0E+01	2.4E+01	na	
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05						,			2.2E+01	5.2E+00	na	2.2E+05
DDD <sup>c</sup>	0			na	8.4E-03			na	8.4E-03		***									na	8.4E-03
DDE <sup>c</sup>	0			na	5.9E-03			na	5.9E-03											na	5.9E-03
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	,								1.1E+00	1.0E-03	na	5.9E-03
Demeton	0		1.0E-01	na			1.0E-01	na								~=			1.0E-01	na	
Dibenz(a,h)anthracene c	0			na	4.9E-01			na	4.9E-01											na	4.9E-01
Dibutyl phthalate	0			na	1.2E+04			na	1.2E+04											na	1.2E+04
Dichloromethane																					
(Methylene Chloride) <sup>C</sup>	0			na	1.6E+04			na	1.6E+04							40.56				na	1.6E+04
1,2-Dichlorobenzene	0			na	1.7E+04			na	1.7E+04											na	1.7E+04
1.3-Dichlorobenzene	0			na	2.6E+03			na	2.6E+03						***					na	2.6E+03
1,4-Dichlorobenzene	0			na	2.6E+03			na	2.6E+03											na	2.6E+03
3,3-Dichlorobenzidine <sup>C</sup>	0			na	7.7E-01			na	7.7E-01											na	7.7E-01
Dichlorobromomethane <sup>C</sup>	0		***	na	4.6E+02			na	4.6E+02						-					na	4.6E+02
1,2-Dichloroethane c	0			na	9.9E+02		20.69	na	9.9E+02											na	9.9E+02
	0			na	1.7E+04			na	1.7E+04			-								na	1.7E+04
1,1-Dichloroethylene		-			1.4E+05			na	1.4E+05											na	1.4E+05
1,2-trans-dichloroethylene	0			na		-			7.9E+02											na	7.9E+02
2,4-Dichlorophenol 2,4-Dichlorophenoxy	0		***	na	7.9E+02			na	7.9E+02					-						114	7.02.02
acetic acid (2,4-D)	0			na				na												na	
1,2-Dichloropropane <sup>c</sup>	0			na	3.9E+02			na	3.9E+02											na	3.9E+02
1,3-Dichloropropene	0		***	na	1.7E+03			na	1.7E+03							***				na	1.7E+03
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03									2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0			na	1.2E+05			na	1.2E+05			***								na	1.2E+05
Di-2-Ethylhexyl Phthalate <sup>c</sup>	0			na	5.9E+01			na	5.9E+01		'				***					na	5.9E+01
2,4-Dimethylphenol	0			na	2.3E+03			na	2.3E+03						***					na	2.3E+03
Dimethyl Phthalate	0			na	2.9E+06			na	2.9E+06							***				na	2.9E+06
	0			na	1.2E+04			na	1.2E+04						***	***				na	1.2E+04
Di-n-Butyl Phthalate	0			na	1.4E+04			na	1.4E+04											na	1.4E+04
2,4 Dinitrophenol					7.65E+02			na	7.7E+02											na	7.7E+02
2-Methyl-4,6-Dinitrophenol	0		10.00	na																na	9.1E+01
2,4-Dinitrotoluene <sup>C</sup> Dioxin (2,3,7,8- tetrachlorodibenzo-p-dioxin)	0			na	9.1E+01			na	9.1E+01											114	5.,2.01
(ppq)	0			na	1.2E-06			na	na					-						na	na
1,2-Diphenylhydrazine <sup>c</sup>	0			na	5.4E+00			na	5.4E+00						***					na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02									2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02		5.6E-02	na	2.4E+02									2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	2.22.01	J.JL JZ	na	2.4E+02			na	2.4E+02											na	2.4E+02
Endosulian Suliate Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02		na	8.1E-01		**						_	8.6E-02	3.6E-02	na	8.1E-01
LETTINITE CONTRACTOR		U.UL-UZ	J.UL-UZ	1164	3.12 01	0.02 02	3.02.02			I				1							

Parameter	Background		Water Qua	ality Criteria			Wasteload	Allocations			Antidegrada	ation Baseline		A	ntidegradat	ion Allocations			Most Limit	ing Allocation	IS
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	нн
Ethylbenzene	0			na	2.9E+04			na	2.9E+04											na	2.9E+04
Fluoranthene	0			na	3.7E+02		-	na	3.7E+02											na	3.7E+02
Fluorene	0			na	1.4E+04			na	1.4E+04											na	1.4E+04
Foaming Agents	0			na				na						-							
Guthion	0		1.0E-02																	na	
				na			1.0E-02	na											1.0E-02	na	
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03									5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03									5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene <sup>c</sup>	0			na	7.7E-03			na	7.7E-03			***								na	7.7E-03
Hexachlorobutadiene <sup>C</sup>	0			na	5.0E+02			na	5.0E+02											na	5.0E+02
Hexachlorocyclohexane																					
Alpha-BHC <sup>c</sup>	0		***	na	1.3E-01			na	1.3E-01											na	1.3E-01
Hexachlorocyclohexane Beta-BHC <sup>c</sup>	0			20	4.6E-01			20	4 GE 01												4.05.04
Hexachlorocyclohexane	0			na	4.0E-01			na	4.6E-01											na	4.6E-01
Gamma-BHC <sup>C</sup> (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01		na	6.3E-01									9.5E-01		na	6.3E-01
, , ,		0.02.01	110	110	0.02 01	0.02.01		110	0.02 01									3.5L-01		iiu	0.3L-01
Hexachlorocyclopentadiene	0			na	1.7E+04			na	1.7E+04							No. 40-				na	1.7E+04
Hexachloroethane <sup>c</sup>	0			na	8.9E+01		***	na	8.9E+01											na	8.9E+01
Hydrogen Sulfide	0		2.0E+00	na			2.0E+00	na											2.0E+00	na	
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0			na	4.9E-01			na	4.9E-01											na	4.9E-01
Iron	0			na				na				***			***					na	
Isophorone <sup>C</sup>	0			na	2.6E+04			na	2.6E+04											na	2.6E+04
Kepone	0		0.0E+00	na	-		0.0E+00	na											0.0E+00	na	
Lead	0	5.3E+02	6.0E+01	na		5.3E+02	6.0E+01	na										5.3E+02	6.0E+01	na	
Malathion	0		1.0E-01	na			1.0E-01	na											1.0E-01		
	0																			na	
Manganese				na			7.75.04	na												na	
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02			***	~~				-	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	***		na	4.0E+03			na	4.0E+03		***			-	***	***				na	4.0E+03
Methoxychior	0		3.0E-02	na			3.0E-02	na							***				3.0E-02	na	
Mirex	0		0.0E+00	na			0.0E+00	na							****	***			0.0E+00	na	
Monochlorobenzene	0			na	2.1E+04			na	2.1E+04			***				***				na	2.1E+04
Nickel	0	4.9E+02	5.5E+01	na	4.6E+03	4.9E+02	5.5E+01	na	4.6E+03						***	***		4.9E+02	5.5E+01	na	4.6E+03
Nitrate (as N)	0		***	na				na				***								na	
Nitrobenzene	0			na	1.9E+03			na	1.9E+03							***				na	1.9E+03
N-Nitrosodimethylamine <sup>c</sup>	0			na	8.1E+01			na	8.1E+01											na	8.1E+01
N-Nitrosodiphenylamine <sup>c</sup>	0			na	1.6E+02			na	1.6E+02											na	1.6E+02
N-Nitrosodi-n-propylamine <sup>C</sup>	0			na	1.4E+01			na	1.4E+01						-					na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na		6.5E-02	1.3E-02	na	1.42.01									6.5E-02	1.3E-02	na	
PCB-1016	0	J.JL-02				0.JL-02	1.4E-02			_											
			1.4E-02	na				na				**							1.4E-02	na	
PCB-1221	0		1.4E-02	na			1.4E-02	na							***				1.4E-02	na	
PCB-1232	0		1.4E-02	na			1.4E-02	na				***							1.4E-02	na	
PCB-1242	0		1.4E-02	na			1.4E-02	na							99.00		marker.		1.4E-02	na	
PCB-1248	0		1.4E-02	na			1.4E-02	na	-					-					1.4E-02	na	
PCB-1254	0		1.4E-02	na			1.4E-02	na											1.4E-02	na	
PCB-1260	0		1.4E-02	na			1.4E-02	na						-					1.4E-02	na	
PCB Total <sup>c</sup>	0			na	1.7E-03			na	1.7E-03	_										na	1.7E-03

Parameter	Background		Water Qual	ity Criteria			Wasteload	Allocations			Antidegrada	ation Baseline		А	ntidegradati	on Allocations			Most Limiti	ing Allocation	IS
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	нн	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН	Acute	Chronic	HH (PWS)	НН
Pentachlorophenol <sup>c</sup>	0	7.7E-03	5.9E-03	na	8.2E+01	7.7E-03	5.9E-03	na	8.2E+01									7.7E-03	5.9E-03	na	8.2E+01
Phenol	0			na	4.6E+06			па	4.6E+06											na	4.6E+06
Pyrene	0			na	1.1E+04			na	1.1E+04											na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0			na				na												na	
Gross Alpha Activity Beta and Photon Activity	0		***	na	1.5E+01			na	1.5E+01											na	1.5E+01
(mrem/yr)	0			na	4.0E+00			na	4.0E+00											na	4.0E+00
Strontium-90	0			na	8.0E+00		***	na	8.0E+00						no de					na	8.0E+00
Tritium	0			na	2.0E+04			na	2.0E+04											na	2.0E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04				***		***	***		2.0E+01	5.0E+00	na	1.1E+04
Silver	0	2.6E+01		na		2.6E+01		na										2.6E+01		na	,
Sulfate	0			na				na								04.00				na	
1,1,2,2-Tetrachloroethane <sup>c</sup>	0		***	na	1.1E+02			na	1.1E+02											na	1.1E+02
Tetrachloroethylene <sup>c</sup>	0			na	8.9E+01			na	8.9E+01		***						-			na	8.9E+01
Thallium	0			na	6.3E+00			na	6.3E+00											na	6.3E+00
Toluene	0			na	2.0E+05	'		na	2.0E+05	,										na	2.0E+05
Total dissolved solids	0			na			-	na												na	
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03									7.3E-01	2.0E-04	na	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	na		4.6E-01	6.3E-02	na										4.6E-01	6.3E-02	na	
1,2,4-Trichlorobenzene	0			na	9.4E+02			na	9.4E+02											na	9.4E+02
1,1,2-Trichloroethane <sup>C</sup>	0			na	4.2E+02			na	4.2E+02											na	4.2E+02
Trichloroethylene <sup>c</sup>	0			na	8.1E+02			na	8.1E+02											na	8.1E+02
2,4,6-Trichlorophenol <sup>c</sup>	0			na	6.5E+01			na	6.5E+01											na	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0			na			***	na				***		***		***			**	na	
Vinyl Chloride <sup>C</sup>	0			na	6.1E+01			na	6.1E+01							***				na	6.1E+01
Zinc	0	3.2E+02	3.2E+02	na	6.9E+04	3.2E+02	3.2E+02	na	6.9E+04									3.2E+02	3.2E+02	na	6.9E+04

#### Notes:

- 1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- 2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- 3. Metals measured as Dissolved, unless specified otherwise
- 4. "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
- 6. Antideg. Baseline = (0.25(WQC background conc.) + background conc.) for acute and chronic
  - = (0.1(WQC background conc.) + background conc.) for human health
- 7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)	]
Antimony	4.3E+03	ŀ
Arsenic	9.0E+01	9
Barium	na	
Cadmium	1.7E+00	
Chromium III	1.2E+02	
Chromium VI	6.4E+00	
Copper	1.5E+01	
Iron	na	
Lead	3.6E+01	
Manganese	na	
Mercury	5.1E-02	l
Nickel	3.3E+01	l
Selenium	3.0E+00	l
Silver	1.0E+01	
Zinc	1.3E+02	

Note: do not use QL's lower than the minimum QL's provided in agency guidance

### 1/15/2009 2:15:49 PM

```
Facility = Loudoun Composting
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 3.9
WLAc = 1.3
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1
```

# Summary of Statistics:

```
# observations = 6
Expected Value = 28.6233
Variance = 294.946
C.V. = 0.6
97th percentile daily values = 69.6525
97th percentile 4 day average = 47.6232
97th percentile 30 day average = 34.5212
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data
```

A limit is needed based on Chronic Toxicity Maximum Daily Limit = 2.6229711214412 Average Weekly limit = 2.6229711214412 Average Monthly Llmit = 2.6229711214412

# The data are:

46.8 8.94 47.2 29.1 11.1 28.6

#### Public Notice - Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of industrial storm water into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: March 5, 2009 to 5:00 p.m. on April 3, 2009

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Industrial Storm Water issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Loudoun Composting, 44150 Wade Drive, Chantilly, VA 20152, VA0091430

NAME AND ADDRESS OF FACILITY: Loudoun Composting, 44150 Wade Drive, Chantilly, VA 20152

PROJECT DESCRIPTION: Loudoun Composting has applied for a reissuance of a permit for the private Loudoun Composting. The applicant proposes to release industrial storm water at a varying rate per rain or snow event into a water body. The facility proposes to release the industrial storm water to an unnamed tributary to Sand Branch in Loudoun County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will monitor the following pollutants to protect water quality: Flow, BOD<sub>5</sub>, Chemical Oxygen Demand, Total Suspended Solids, Ammonia, Total Nitrogen, Total Phosphorus, and Acute Toxicity. The permit will limit the following pollutant to protect water quality: pH.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment.

Name: Susan Mackert

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193 Phone: (703) 583-3853 E-mail: sdmackert@deq.virginia.gov Fax: (703) 583-3821

# State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

# Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Loudoun Composting
NPDES Permit Number:	VA0091430
Permit Writer Name:	Susan Mackert
Date:	January 13, 2009

Major [ ] Minor [X ] Industrial [X ] Municipal [ ]

I.A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?	X		
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet <b>or</b> permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet <b>or</b> permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?		X	
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?	X		

VD D 1//D 11// CI	<b>V</b>	NY -	NT/A
I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?			X
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

### Part II. NPDES Draft Permit Checklist

II.A. Permit Cover Page/Administration

and longitude (not necessarily on permit cover page)?

# Region III NPDES Permit Quality Review Checklist - For Non-Municipals

1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude

Yes

X

No

N/A

2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		
II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X

6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	X		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	
II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
II.D. Water Quality-Based Effluent Limits - cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		
II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?	X		
II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	X		
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	X		
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions		Yes No N/A			N/A
1. Does the <b>permit</b> contain all 40 Cl	FR 122.41 standard conditions or the State	e equivalent (or	X		
more stringent) conditions?			Λ		
List of Standard Conditions - 40 C	FR 122.41				
Duty to comply	Property rights	Reporting Requ	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned ch	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance			
not a defense	Monitoring and records	Transfers			
Duty to mitigate	Signatory requirement	Monitoring reports			
Proper O & M	Bypass	Compliance schedules			
Permit actions	• •				
	•	Other non-	complian	ice	
2. Does the permit contain the addit	ional standard condition (or the State equi	valent or more			
*	non-municipal dischargers regarding polli		X		

# Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Susan Mackert
Title	Environmental Specialist II
Signature	( Jupan Macket
Date	January 13, 2009